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ABSTRACT

Based on a survey of 83 instructional developers, this chapter considers whether the instructional developer/client relationship is a consulting relationship and, if so, whether consultants employ a specific consulting model. Four models of consultation are considered--the Product Model, the Prescription Model, the Collaborative/Process Model, and the Affiliative Model--and the phases and the task environment of the consulting process are detailed. The survey results showed that developers preferred the Collaborative/Process Model of consulting; however, a more systematic perspective of the consulting relationship based on leadership models is also presented. This model addresses the human and situational contingencies that affect the developer's decision to use a certain style or role with a client. Three tables are provided. (55 references) (Author/EW)

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Chapter 23

Consultation in Instructional Development: A First Look

David P. Rutt

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Is the instructional developer/client relationship a consulting relationship? If so, do instructional developers employ a specific consulting model in this relationship? This chapter reports the results of an instructional development consultation style survey which was mailed to 83 IDers across the country. In addition to discussion of the survey results the author provides a look at future directions in analysis of the IDer/client relationship.

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The instructional developer (IDer) employs various strategies of instructional development while working in conjunction with a subject matter expert (SME) on an instructional problem. In most cases within higher education, the SME, and not the IDer, will implement the solution to the problem. This type of relationship can best be categorized as a "consulting relationship" following Steele (1975) who defined consulting as: any form of providing help on the content, process, or structure of a task or series of tasks where the consultant is not actually responsible for doing the task itself but is helping those who are.

Steele also pointed out that the recipient of such help--the client--has the option to freely reject it at any time. In addition, Steele also made it clear that consulting is not necessarily a "strict occupational role" but rather a function that can be applied to many areas. It is a set of skills within a number of different frameworks or models which reflect different professional points of view.

The IDer may thus be considered a consultant since help is provided to a subject matter expert who has the option to accept or reject such help. In addition, following Steele, the IDer is not concerned with doing the task (such as teaching or running an autotutorial lab) but rather with helping the SME implement the tasks and solve an instructional problem more effectively.

In establishing a consulting relationship with the SME, two systems will function concomitantly: the instructional development system and the human system (Arnn and Strickland, 1975). Normally, the primary emphasis during an instructional development effort is the instructional development system. The use of this system does not necessarily guarantee an appropriate and successful solution to an instructional problem. It is also necessary that the human system be considered in the instructional design effort. In thinking about the instructional development process, considerations about the human system of interaction between the IDer and the SME have usually been omitted. It is through the establishment of a consulting relationship that the human system can be effectively managed toward the attainment of a desired goal.

An extensive amount of research completed in recent years has directly influenced the instructional development process. Such research has involved inquiry into many topics, including aptitude treatment interaction, learning hierarchies, concept formation, and message design (see Baker, 1975). In contrast, it appears that little informa-

tion is available beyond heuristic guidelines to aid the IDer in establishing a relationship with the SME (see Haney, Lange, and Barson, 1968, and Kemp, 1971). A review of many of the texts used by IDers reveals little information useful in establishing a consulting relationship (Briggs, 1977; Davis, Alexander and Yelon, 1974; Gagne and Briggs, 1974; Gerlach and Ely, 1971).

The purpose of this chapter is to explore various aspects of consultation as it pertains to IDers, to propose a framework useful in exploring this important area, and to discuss the results and implications of initial research using this framework.

CONSULTING AND INSTRUCTIONAL DEVELOPMENT

With the increased formalization of instructional development, the role of the IDer has emerged. If we assume that the IDer will utilize the instructional development process to solve instructional problems, the question then arises as to how this process might be utilized. Will the process be utilized by the IDer alone or in concert with either another IDer or a subject matter expert (SME)? Certainly, the instructional development process is not the exclusive property of the IDer in terms of utilization. Figure 23-1 presents a number of possible configurations that might exist when instructional development is utilized. Though cells 2, 3, 4, and 7 are possible and may exist, for the purposes of this study the relationships that stem from cells 5, 6, 8, and 9 will provide the focus for further discussion.

	No Developer	Single Developer	Team of Developers
No SME	1	2	3
One SME	4	5	6
Team of SMEs	7	8	9

Subject matter expert

Figure 23-1. Instructional development utilization matrix.

The notion of the IDer working with a subject matter expert was first mentioned by Faris (1968) in a "futuristic" job description. From his perspective, the IDer is a person who works with faculty members in the development of instruction, including the analysis, design, and evaluation of instructional practice. He also concluded that the IDer must be capable of guiding the activities of an interdisciplinary team in the performance of the above tasks. This is a clear indication that some notion of consulting, or at least helping, is indigenous to the role of the instructional developer.

Engel (1969) found support for this idea in a survey he conducted to assess the activities of IDers in higher education. It appears that the IDer does carry out the analysis and design activities suggested by Faris. Furthermore, such activities are carried out in conjunction with a team of curriculum experts, psychometrists, educational psychologists, media production specialists, and faculty members who are the subject matter experts. It seems the IDer must not only have a thorough understanding of instructional development but must also have management and interpersonal skills necessary to establish a working relationship with people of such diverse backgrounds.

Hoban (1973) provided further support for the findings of Engle. The majority of an IDer's time is spent with activities that include administering a large instructional development project, teaching instructional development, and acting as a consultant to a development project. Again, it appears that consulting is a recognized and accepted part of the instructional developer's professional role. However, the exact nature of this activity was not determined in this study.

Price (1976) carried out what appears to be the only research dealing with the process of consulting in instructional development. The purpose of this study was to examine the verbal behavior of IDers as they met with new clients for the first time. The verbal utterances of the six IDers in the study were transcribed and the content analyzed. Three major categories of verbal utterances, each containing a number of subcategories, were identified as follows: a) four consulting phases--introduction, problem identification, solution discussion and closure; b) five categories of content utterances which included substantive and instructional design utterances; and c) twelve categories of process utterances, which included comments concerning the interaction between the developer and the client.

The results demonstrated some support for the consulting models of Davies (1975), Silber (1973) and Havelock (1973). The majority of the comments made during the interaction were by the IDer and occurred primarily during the phases of problem identification and solution discussion. In the content category, the IDer spoke mostly about methods mainly concerned with "explaining concept and principles" to the client and "opinioning"; i.e., the IDer expressing a personal point of view.

It is important to note that Price utilized what could best be labeled as a "Collaborative Model" in his study. Employing this model implies certain assumptions about a consulting relationship. It appears from the paucity of research in the area of consulting and instructional development that it may be somewhat early to presume that this is the model. A close examination of Price's data revealed that when IDers encountered a variety of instructional problems (to be discussed below), they responded verbally in remarkably diverse ways. Though Price found some support for a Collaborative Model, his results also lead one to ask if other models of consultation are utilized by the instructional developer, and if the instructional problem that confronts the IDer has any influence over his use of a certain model. We will first examine a number of other models that may prove useful for describing the instructional designer's consulting behavior. Considering the potential effect instructional problems may have on consulting behavior, an examination of the IDer's task environment will then be undertaken.

MODELS OF CONSULTATION

Consulting is not a strict occupational role, as pointed out above, but rather various skills set within a framework or model that manifests the perspective of a particular profession (for example, see Argyris, 1970; Havelock, 1973; Brokes, 1975; Kurpius and Brubaker, 1976; Klein, 1977; Caplan, 1970; Schein, 1969). These "points of view" are nothing more than assumptions made by a profession about the role of the consultant and client within the consulting relationship.

Davies (1975) has suggested that a number of different assumptions may form the foundation of a relationship, but normally a few will dominate and enable us to classify such relationships. He has labeled three such classes of assumptions: product-oriented, prescription-oriented and product/process-oriented.

Tilles (1961) used three similar classifications for the consulting relationship and labeled them Purchase-Sale, Doctor-Patient, and Constructive, respectively. Schein (1969) also suggested three possible consulting relationships: the Purchase Model, the Doctor-Patient Model and the Process Model. Drawing from these sources, the three sets of assumptions used in the present study were labeled the Product Model, Prescription Model and Collaborative/Process Model. In addition, a fourth set of assumptions has been identified that are more relationship-oriented and less task-oriented than the other three. Following the ideas of Blake and Mouton (1964, 1978), this last set of assumptions will be labeled Affiliative. The labels used here were adopted because they communicate more precisely the role of the IDer. These four models and their underlying assumptions will now be discussed.

Product Model Assumptions. Under this set of assumptions, the consultant is viewed as a seller who is approached by a buyer with a problem. It is assumed that the client has correctly identified the problem and the appropriate form of the solution and can also determine the conditions for delivery. The consultant is expected to "deliver the goods" as requested, which will usually take the form of information, a service, or a product; e.g., provide books on behavioral objectives, design a test, or produce a filmstrip.

This relationship may be appropriate when there is little question of the specified problem because of the client's expertise or when it is simply expedient on the part of the IDer to "go along with" the client. If one goal of the relationship is to influence the long-term behavior of the client, a number of reservations about this model must be raised. With this model, it can safely be assumed that the normal routine of the client will not be disrupted while the product or service is being developed. Some long-term behavioral changes may take place as a result of "information flow" between the consultant and client, but whether this information leads to "constructive" purposeful and effective activity" on the part of the client is questionable (Tilles, 1961). The effectiveness of the product developed must also be questioned because it may be something beyond the sophistication of the client.

Prescription Model Assumption. Within this set of assumptions, the roles of consultant and client are reversed in terms of problem identification and solution. The client initiates the relationship by stating a concern about an existing situation; e.g., "My students don't seem to enjoy my lectures any more," or "I think my class needs more audio-aids." The client does not have the skills to diagnose the problem, and thus it is up to the consultant to carry out the analysis and diagnosis of the "concern" to identify the underlying problem (Schein, 1978). The assumptions underlying this model are that the consultant has the authority and skills to carry out a diagnosis, and the solution will be accepted by the client. This model obviously stems from the field of medicine and also appears to be a popular mode of action in the area of management consulting (see Klein, 1977).

Such a relationship has a number of advantages. The most obvious is that the consultant has the "upper hand" in the relationship, with the authority of a specialist involved in an effort to help the "sick" client. The consultant may emerge from such a relationship with new or refined skills of analysis. The client may develop both an increased awareness of the existing situation and knowledge that may prove useful for examining similar situations in the future.

A relationship based upon these assumptions also has a number of disadvantages. As the IDer enters the setting to help the client with the perceived concern, the first things to be considered are discovering the basis for this concern and determining if it is the "true concern." The situation is further complicated if the size of the client group is large, since it may also be necessary

to determine the true client. The client may also be unable, or at best reluctant, to accept or implement the suggested solution. As a result, any long-term effects upon the client may be minimal. Tilles (1961) has noted that, assuming a client needs help, such help can only come from the client. It should be realized that improving one's situation requires a great deal of effort. It is frequently difficult for the client to master the skills or new behavior required for such a change to take place. This is one area in which the consultant and the client may be able to work more fruitfully together. However, this kind of joint effort is not provided for by the medical analogy.

Collaborative/Process Model Assumptions. The logical manner in which to start talking about consultation is to raise the issue of desired results from the consulting relationship (Tilles, 1961). In the case of the Purchase Model, the desired results stem from the need for some type of information, product, or service by the client. The Prescription Model requires that the results take the form of a prescription to solve an existing concern of the client. With the specification of the results, the client and the consultant are locked into certain role behaviors with concomitant expectations for each other's behavior. The same can be said for the Product Model.

The Collaborative/Process Model makes no a priori assumptions concerning the desired results of the relationship which may lead to a relatively fixed set of behaviors. Rather, it involves a system of decisions, which are reached by agreement, concerning what is expected to be achieved, the nature of the help required, and the changing roles that will be exercised (Davies, 1975).

Within this model, it can be assumed that the client is aware of an existing problem but may need help in further clarification of that problem. The IDer and the SME bring to the relationship certain expectations arising from their respective professional roles. It can also be assumed that the variance in their expectations concerning the relationship can be negotiated to the mutual satisfaction of both parties. This may result in a variety of roles emerging to fit the requirements of the various projects.

The goal of this model is to realize the intended instructional outcomes either in terms of increased student achievement or the more effective use of available resources (Davies, 1975). A secondary goal, though one of no less importance, is that the client will be able to apply skills learned during the instructional development process to future instructional problems. For the IDer, this may not mean a reduction in the need for instructional development expertise but rather the promise of a more sophisticated relationship with the client in the future.

This relationship also has a number of drawbacks. The scope of the project or the available time may not lend itself to the utilization of this model. Also, the client may not be receptive to the openness that is demanded of such a relationship, or conversely, the IDer may not feel comfortable utilizing this model.

Affiliative Model Assumptions. Under this set of assumptions, it is necessary that the consultant emphasize good interpersonal relations with the client to be effective. This will be done even at the expense of task accomplishment. The consultant is concerned with ensuring that the client is satisfied and that a well-ordered environment is maintained. The consultant seeks approval from the client by using ingratiating behavior to increase the chances of approval and reduce the risk of confrontation and rejection (Blake and Mouton, 1978).

It is entirely possible that the consultant will work very hard. Unfortunately, the motivation for this hard work is to gain approval from the client rather than to solve an instructional problem. The result will be a high work level with low productivity.

When a consultant operates under these assumptions, a number of conditions will exist in the relationship: little or no conflict occurs, total acceptance of client suggestions and ideas by the consultant and anticipation of the desires and wishes of the client. These conditions would appear to primarily benefit the client.

However, if productivity is not an issue in the particular environment in which this model is practiced, such conditions may be acceptable.

PHASES IN CONSULTATION MODELS

A consulting relationship passes through different stages or phases. The exact identification of these phases is still subject to dispute. An analysis of the consulting models of Brokes (1975), Kurpius and Brubaker, (1976), Davies (1975), Schein (1969, 1978), Argyris (1971), Havelock (1973), and Caplan (1970) reveal at least three phases that are held in common. These phases are entry, analysis-diagnosis, and problem solution.

In the entry phase the major concerns are with the client and consultant getting to know one another, establishing the nature of the problem, and identifying methods and procedures for solving the problem. In the analysis-diagnosis phase, data may be collected to further clarify the nature of the problem. This may lead to revisions in the definition of the problem and procedures for solving the problem and changes in estimates for needed resources. During the problem solution phase the plan for reaching certain goals or solving an instructional problem are finalized and implemented. During this phase the relationship may be re-examined and terminated.

Kurpius and Brubaker (1976) have noted that most consulting models share at least those phases identified above. They have also suggested that differences between models are to be found in the emphasis placed upon a particular phase within a certain model. This difference in "emphasis" is manifested in the consultant's behavior during the

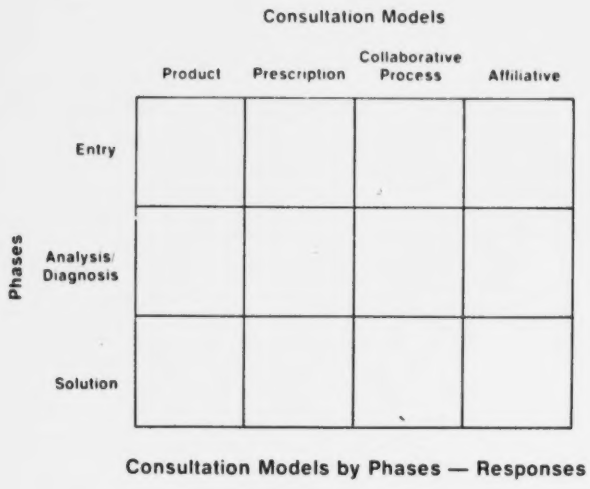

Figure 23-2. Consultation models by phases matrix.

phase. These behaviors can probably be identified and classified based upon the assumptions associated with each model discussed above. The matrix in Figure 23-2 displays the interrelationship between phases and consultation models.

THE TASK ENVIRONMENT OF INSTRUCTIONAL DEVELOPMENT

The IDer employs a variety of procedures in the process of designing a learning environment. These processes include task analysis, learner analysis, determination of teaching strategies, and evaluation. These procedures and others are brought to bear on the instructional problem with which the developer is faced. In this study it is these problems that constitute the tasks with which the developer must deal. The task environment of instructional development thus consists of all tasks with which the developer is confronted in the design of a learning environment. As is true of consultation in instructional development, little work has been done to specifically identify the elements that compose the IDer's task environment. However, enough work has been completed to draw a tentative picture.

Engel (1969) noted that most of the work of the programs he surveyed occurred at the unit or course level. Hoban (1973) was also concerned with the level at which IDers concentrate their effort. He found, like Engle, that the majority of an IDer's time is spent on tasks at the course level, with a lesser amount of time on both the single lesson (unit) and "sequence of courses" (curriculum) level.

Alexander and Yelon (1972) identified the service, research, and teaching functions of a number of instructional development organizations in higher education. Their work also provides a more detailed picture of the task environment:

1. conduct workshops
2. assist departments in the analysis, planning, and design of curriculum
3. assist faculty in the development of instructional materials
4. help write internal publications; i.e., handbooks, project reports, etc.
5. consult with individual faculty members
6. provide test scoring and analysis services
7. provide instructional T.V. services
8. administer and score standardized tests
9. provide media equipment (store, repair and distribute)
10. maintain reference library on instructional development topics for higher education
11. maintain laboratories for faculty research and development in instruction
12. provide administration with technical advisory services regarding instructional development

A review of the individual organizational descriptions included with the final report failed to specify the nature of the consulting activities engaged in with faculty members.

In the Price (1976) study, the problems brought to the instructional developers were not considered in the analysis of the data. An examination of these problems provides further insight into the task environment of instructional development:

1. design curriculum for 4-H
2. design four half-hour workshops on menopause
3. improve graduate education course
4. improve a course by adding media
5. evaluate and field-test instructional package
6. help improve performance of guest lecturers
7. develop course objectives and improve teaching methods
8. improve course effectiveness

The main areas of focus in the Price study appear to be at the curriculum and course level. The types of activities with which the developer is concerned involve writing objectives, test design, evaluation, media design and production, and content reorganization.

The results of Engel (1969), Hoban (1973), Alexander and Yelon (1972), and Price (1976) converge to provide us with a preliminary view of the instructional developer's task environment. It appears that most design tasks are at the course level though the IDer will encounter some on the unit or curriculum level. These design tasks will call for either some type of instructional strategy modification or the introduction of media as a possible solution to the instructional problem. The instructional design modifications involve such activities

as writing objectives, designing tests, reorganizing content, and evaluating. The introduction of media usually involves television, slides, or overhead transparencies.

Davis, Abedor, and Witt (1976), drawing upon their experiences with the Educational Development Program at Michigan State University, constructed a matrix to organize the instructional tasks with which they were confronted. They have identified "as a first approach" that most instructional development projects range along two dimensions: a) size or scope of the system under development; e.g., several courses or a curriculum, one whole course, or part of a course (unit); and b) the type of innovation or improvement requested by the client; e.g., revision of instructional strategies or an infusion of some type of instructional media or technology that does not constitute revision of the entire course.

The matrix in Figure 23-3 illustrates these two dimensions of system scope and innovation type. The findings of Engel (1969), Alexander and Yelon (1972), Hoban (1973), and Price (1976) concerning the task environment of instructional development can be organized into the cells of this matrix. It, therefore, seems reasonable to conclude that, at least for the present time, this matrix provides a useful mechanism for organizing the task environment of the instructional developer.

THE TASK ENVIRONMENT AND CONSULTATION

Consulting consists of a complex array of skills that must be appropriately matched to a particular problem in a given setting for certain desired outcomes to be achieved. Such matching involves a complex set of decisions on the part of the consultant. the basis for the consultant's decision-making process has been proposed by Gallessich (1975). She contends that the decision as to which services will best serve client needs is crucial. Yet, explicit and truly discriminating choices are probably rare. The decision-making process used by the consultant is influenced by a number of variables. One is the consultant's "set" or the perceptual framework and methods of organizing data. This set is shaped by early experiences in a training mold. Gallessich asserts that once "imprinted," the consultant's set is unwittingly constricted as the client organization is surveyed and possible interventions are considered. Another variable is the lack of knowledge; most consultants have limited acquaintance with intervention strategies. And most have a rather narrow range of skills and too often try to fit the task to their particular skills. Consultant values, usually implicit, further limit options.

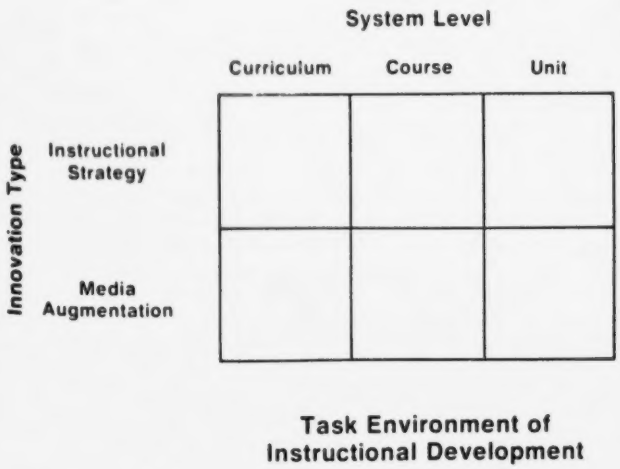

Figure 23-3. System level by innovation type matrix.

It is reasonable to assume that each of the factors identified by Gallessich influences how a consultant operates within the task environment. We may also assume that each consultant has an idiosyncratic manner for responding to the task environment based upon some type of internalized consulting model. This model may manifest itself in a series of behaviors that could then be used to identify an individual's consulting model-in-use. The next step is to determine if the behaviors are congruent with any of the theoretical models of consulting. Much of the consulting research reviewed by the author has attempted to identify a general consulting model that is usually based upon collaborative assumptions. Considering the complex task environment of the instructional developer, it would seem inappropriate to suggest the use of an unvarying model of consulting when one considers the comments of Gallessich.

Clark and Ford (1970) have pointed out that little is known concerning the analytical framework used by consultants to examine a particular situation. Their research tracked the use of analytical models employed during the consulting relationship. It was discovered that consultants engage in "model switching"; that is, the consultant switches from one analytical framework to another in an attempt to understand the organization-to-environment relationship. In a similar fashion, the IDer may also engage in model switching as the client relationship progresses or new tasks are encountered.

Additional support for the idea of model switching comes from the work of Arbes (1972). He explored the manner in which student personnel administrators responded to situations within their job context, while also identifying the way other members of the university community responded to the same situations. Using the model of managerial leadership and change of Blake and Mouton (1964) as a framework, the prevalent model with student personnel administrators was identified as the "team leader" style which has a strong collaborative and participative emphasis. The next most popular model identified was the "country club leader" style which emphasizes people

relationships with a minimal emphasis on goal and task attainment. Arbes suggested that student personnel administrators may "fall back" to this style when the first does not work or they are under some type of pressure. His research did not examine the changes that might occur during the consulting relationship.

Clark (1975) suggested that although the collaborative approach has been advocated, there is evidence of success with other strategies. However, the "core problem," as he points out, appears to hinge upon the identification of the conditions under which different strategies (or models) are appropriate. The work of Dunn and Swierczek (1977) in the area of grounded theory in planned change has provided empirical support for the collaborative model, but they also noted that the exclusive effectiveness of such a model is still in doubt.

In conclusion, it appears that a number of consulting models in addition to the Collaborative/Process Model could be employed by the IDer, including the Product and Prescription Models. The work of Arbes (1972) suggests that a fourth model might be employed, one that is more relationship-oriented and less task-oriented than the other three. Such a model has been labeled the Affiliative Model and is discussed above. Whether any of these models are used by IDers is not known. It also seems that variations in dimensions of the Ider's task environment may result in the differential selection of a consulting model (model switching). Thus, a certain model might be employed under one set of conditions in the task environment, and a second under another set of conditions.

It was hypothesized that IDers in this study would prefer a Collaborative/Process Model over the other three. Two interactions were also hypothesized which predicted a relationship between consulting models and either system scope or innovation type: IDers would prefer a Collaborative/Process Model when the problem was at the curriculum level and a Product Model when the problem was at the unit level. With innovation types, the IDer would prefer the Collaborative/Process Model with an instructional strategy innovation and the Product Model with a media augmentation.

METHOD

Subjects

The subjects in this study were IDers working with clients on a regular basis within four-year institutions of higher education. Davis (1978) recently reported the results of a survey he carried out which profiled 16 instructional development programs operating on college and university campuses across the country. Using this list as a starting point, the head of each program was contacted and asked to provide the names of IDers working with clients. Through these contacts, other names or institutions were acquired and subsequently contacted. This effort resulted in a sample of 83 IDers actively working as instructional developers throughout higer education.

Instrument

The Instructional Development Consultation Style Survey (IDCSS) was designed for use in the study. Two dimensions that comprise the IDer's task environment were identified above as system scope and innovation type. System scope consists of three levels: curriculum, course, and unit. Innovation type consists of two levels: instructional strategy changes and media augmentation. These two dimensions, when crossed, provided a six-cell matrix that provided the basis for six scenarios. For example, one of the scenarios portrayed an instructional strategy change at the curriculum level.

The four consultation models and three phases identified above provided the basis for describing the range of possible behaviors an IDer might employ under the conditions described in the scenario. For each scenario, a statement was written describing a behavior for each consultation model within a particular phase. This resulted in a total of 12 statements per scenario.

Statistical Design

The design that was used in this study consisted of a 2 x 3 x 3 x 4 factorial analysis of variance employing repeated measures on all four main effects. The main effects with their respective levels are: innovation type (1), system level (2), consulting phases (3), and consulting models (4). The dependent variable was the agreement rating that measured on a ten point scale the degree to which a subject agreed that a particular statement of consulting behavior was close to their own actual behavior under the conditions of the scenario. A rating of 1 was the "least similar" and a rating of 10 "most similar."

The use of a repeated measures design provides an exploratory study such as this one with a number of advantages. Rather than subjects being randomly assigned to treatments, each subject is exposed to all treatments. This enables each subject to serve as her or his own control. This eliminates the effect of individual differences existing prior to being exposed to the scenarios from the treatment effects and experimental error. Also, since each subject is exposed to all treatments, there are more degrees of freedom for the denominator of F for a given number of subjects. This should increase the power of the tests of significance. The critical region for tests of significance was established with alpha equal to .05.

Data Collection

The IDCSS was assembled by randomly ordering each response statement within each phase. Using a table of random numbers, each subject was assigned a six-digit number that was used to both randomly order the six scenarios and serve as an identification number for each subject. The IDCSS was mailed to 83 IDers working in institutions of higher education throughout the country.

RESULTS

Table 23-1 displays the results of the analysis of variance and the omega-square values for each independent variable and interaction. All independent variables, with the exception of innovation type, were significant. All independent variables, with the exception of innovation type, and all interactions were significant at the $p<.05$ level. An examination of Table 23-1 also reveals that only the main-effect consultation models had an omega-square value that accounted for more than 1% of the variance. The third order interaction of innovation types by phases by system levels by models accounted for 14.96% of the variance. The total amount of variance accounted for by all main effects and interactions was slightly more than 30%. This is rather remarkable considering the preliminary nature of this research. Also, in view of the relatively large amount of variance accounted for in the third order interaction, consulting is apparently a very complex activity. This activity encompasses, and is influenced by, a variety of interpersonal, intrapersonal and environmental factors, only some of which were operationalized in this study.

Table 23-1. Analysis of variance for mean agreement rating.

Source	Error Term	SS	df	MS	F	Ω^2
Subjects (R)		1597.88	47	33.997		
Innovation Type (I)		3.89	1	3.893	NS	.000
	IR	187.63	47	3.992		
Phases		71.48	2	35.747	9.097*	.0023
	PR	369.36	94	3.929		
System Level (S)		183.77	2	91.886	20.66*	.0063
	SR	418.09	94	4.447		
Consultation Models (M)		421.45	3	140.483	14.91*	.0140
	MR	1328.46	141	9.422		
I x P		61.76	2	30.882	12.55*	.002
	IPR	231.21	94	2.459		
I x S		123.79	2	61.896	13.49*	.004
	ISR	431.18	94	4.587		
P x S		68.16	4	17.040	6.87*	.002
	PSR	465.64	188	2.477		
I x M		276.96	3	92.320	16.38*	.0093
	IMR	794.40	141	5.63		
P x M		614.90	6	102.483	14.25*	.021
	PMR	2027.68	282	7.190		
S x M		805.31	6	134.218	20.56*	.0275
	SMR	1840.60	282	6.527		
I x P x M		912.45	6	152.075	28.30*	.0316
	IPMR	1515.35	282	5.374		
I x P x S		84.09	4	21.022	6.69*	.0026
	IPSR	590.43	188	3.140		
I x S x M		167.90	6	27.983	5.33*	.006
	ISMR	1481.51	282	5.254		
P x S x M		774.11	12	64.509	13.49*	.0257
	PSMR	2696.96		4.782		
I x P x S x M		4235.06	12	352.921	64.64*	.1496
	IPSMR	3079.30	564	5.460		
Total S.S.		27860.970				

*p<.05

The main-effect Consultation Model (Table 23-1) was significant, F(3,141) = 14.91. The omega-square value for this independent variable was 0.140 . The mean agreement rating of the Collaborative/Process Model was significantly larger than the mean of the Product model (t [141] = 2.78), Prescription Model (t [141] = 3.32), and Affiliative Model (t [141] = 6.74). IDers tended to choose the model that had a collaborative orientation in their hypothetical interaction with clients.

The interaction of system level by consultation models (Table 23-2) was significant (F (6,282) = 20.56), with an omega-square value of .0275. A simple main-effects analysis (Kirk, 1968) revealed that significant differences exist between system levels for the Product Model and Collaborative/Process Model. A significant difference exists between system levels for the Product Model and Collaborative/Process Model. A significant difference also exists between the means of consultation models at the curriculum and unit system levels.

The t-tests carried out to further explain these interactions revealed that the curriculum level, the mean of the Product Model was significantly larger. In contrast, at the unit level the Collaborative/Process Model was significantly larger.

The interaction of innovation type by consultation models (Table 23-3) was significant: F (3,11) = 16.38. The omega-square value for this interaction was .0093. A simple main-effects analysis was carried out. The results of this analysis are reported in Table 23-3 and indicate that consultation models with the instructional strategy and media augmentation innovation types were significant: F (1,141) = 6.47 and F (1,141) = 7.32, respectively. Innovation type each of the four consultation models was not significant.

The results indicate that with an instructional strategy innovation type the Collaborative/Process Model was preferred only above the Prescription Model. With media augmentation innovations, the Collaborative/Process Model was chosen with the Affiliative Model as being appropriate. Therefore, the IDer did not agree that the Product Model was appropriate with media augmentation innovations.

DISCUSSION

It initially appears that the IDer generally prefers the Collaborative/Process Model above the other models of consultation. This is not surprising, considering that such a posture is

Table 23-2. Simple main effects analysis of mean agreement ratings for system levels by consultation models.

Source	df	MS	F
S at Product Model	3	80.90	12.30*
S at Prescription Model	3	24.83	3.80
S at Collaborative/Process Model	3	42.06	6.44**
S at Affiliative Model	3	17.09	2.62
M at Curriculum Level	2	82.14	12.58
M at Course Level	2	8.11	1.24
M at Unit Level	2	114.50	17.54**
Within Groups	282	6.52	

*p <.0125

**p <.0166

Table 23-3. Simple main effects analysis of mean agreement ratings for innovation types by consulting models.

Source	df	MS	F
I at Product Model	3	19.44	3.45
I at Prescription Model	3	2.77	1 <
I at Collaborative/Process Model	3	8.07	1.43
I at Affiliative Model	3	1.38	1 <
M at Instructional Strategy	1	36.46	6.47*
M at Media Augmentation	1	41.26	7.32*
Within Groups	141	5.63	

*p < .025

probably more personally and professionally appealing to the IDer when, as a consultant, s/he can work with a client rather than either giving or taking directions. However, as both the omega-square values and the analysis of the interactions demonstrate, the apparent preference that the IDer holds for the Collaborative/Process Model is hardly as straightforward as this result might suggest.

The direction of the system level by consultation model interaction was contrary to expectations. An instructional development task at the curriculum level was assumed to be complex. It was also assumed that the IDer would engage in a relationship with the client that would help reveal these complexities. This would enable the content expertise of the client and the instructional design expertise of the IDer to be appropriately meshed to solve the curricular problem; hence the need for a collaborative relationship. These assumptions do not appear to hold true for this study: at the curricular level, the IDers chose the Product Model as being more appropriate than the Collaborative/Product Model. At the unit-system level it was assumed that a given task would be relatively simple, thus providing either the client or IDer an opportunity to play a dominant role, depending upon whether the task was content or media-oriented. Again, this assumption does not hold up: the IDer chose the Collaborative/Process Model at the unit level.

The reasons behind these results are unclear. As mentioned earlier, Hoban (1973) reported that IDers concentrate most of their effort at the course and unit levels and the least at the curricular level. His findings, combined with the results reported here, provide some initial insight into the IDer's consultation behavior. At the unit level, the IDer may have felt more "comfortable" in contemplating working with the client because of a familiarty with such projects gained from past experience, and thus used the Collaborative/Process Model. Projects at the curriculum level may be foreign to the IDer. The relative unfamiliarity with curriculum-level consulting may therefore influence the IDer to allow the client to define the problem and the solution by using the Product Model.

It may also be that the IDer does not think it appropriate to question the client's initial ideas because they are so closely tied to the content. Some of this lack of confidence on the part of the IDer may be due to a lack of skills for establishing the relationship. Some support for this comes from Price (1974). In the four phases identified in his study, the introductory (entry) phase contained the smallest percentage of verbal utterances by the IDer.

The results from the innovation type by consultation models interaction is also contrary to those expected. It was assumed that at the instructional strategy level the predominant model would be the Collaborative/Process Model. This assumption was based on the idea that most instructional strategy innovations would be complex and would therefore require a collaborative

effort on the part of the client and the IDer. It is not possible to say with certainty which model is preferred. The mean of the Product Model was the highest with this innovation, but it was not significantly different from the Collaborative/Process Model. With media augmentation, when one might assume the Product or Prescription Model to be operating, the Collaborative/Process Model emerged as the model the IDer chose as most appropriate with this innovation type. It does seem strange that with instructional strategy innovations the tendency was toward the Product Model rather than the Collaborative/Process Model. It may be that for the IDers in this study, projects that involve media are more familiar, thus allowing them to work in a collaborative manner.

Based upon the results reported here and the results of the post hoc analysis reported in Rutt (1979), the following conclusions can be drawn:

1. The IDers in this study did not favor a single model of consultation across all phases, innovation types or system levels.
2. The task environment influenced the type of consulting model the IDer chose with the system level exhibiting slightly more influence than innovation type.
   a. When an instructional problem was at the curriculum-system level, and especially if it involved instructional strategy changes the IDers in this study chose to employ the Product Model.
   b. When the instructional problem was at the unit-system level, and it involved media augmentation, the IDers in this study chose to employ the Collaborative/Process Model.
3. The IDers in this study chose to move from a Product Model orientation to a more Collaborative/Process Model orientation in working with the client as the relationship progressed. This was somewhat moderated when the instructional problem was at the curriculum-system level.

Implications

One dimension not "controlled" in the study reported above was that of the client dimension. The type of client could possibly influence the IDer's selection of a consultation model. Coscarelli and Stonewater (1980) have suggested a typology of client styles that may prove useful in studying this dimension. Until this dimension is examined, it is impossible to estimate the effect of the client on the consulting relationship.

It is important to note that the size of the project influenced the model selected by the IDer: at the curriculum level the IDer thought it appropriate for the client to determine the problem and at the unit level the IDers selected a model that would have them working as equals. The reason underlying the selection of a model that allows the client to determine the problem may, in part, be due to a lack of both experience and consulting skills for coping with projects of this scope. The IDer may feel more "comfortable" with projects at the unit level that involve media, and is therefore willing to become more assertive and establish a collaborative relationship with the client.

It is interesting to note that under no circumstances was the Prescriptive Model selected. It would seem that at certain times during the consulting relationship it would be appropriate to tell the client the best course of action. It is possible that this model is used but does not dominate during any phase of the relationship. Why it is not used may be due to some feeling on the part of the IDers that it is not the professional responsibility of the IDer to tell the client anything, or, alternatively, IDers do not feel professionally secure in doing so. One thing is abundantly clear: if IDers are to improve their professional effectiveness, more work is needed to understand the nature and effects of the consulting relationship in instructional development.

Future Directions

Much of the information required for answering basic questions of consultation in instructional development already resides in other fields where mistakes have already been made and blind alleys thoroughly explored. Those in the field of instructional development, with its heritage of eclectiscism, should therefore feel comfortable in borrowing from other fields. In this last section, I will do some "borrowing" of my own and suggest a series of models (frameworks for approaching consultation research. As as result, it is hoped that more organized effort can begin for dealing with what I believe to be one of the more important areas within instructional development.

A Different Perspective

Durzo, Diamond and Doughty (1979) identified "instructional process and developer-client interaction" as one of the major areas of inquiry for instructional development. The topic of consultation in instructional development has, in fact, only recently come under serious scrutiny. Bratton (1980), after reviewing the literature of instructional development consultation, was able to locate only six publications that "discuss ID consultation in terms of either documented theory or research data." He concluded his review by noting:

> There is little doubt that the topic (of consultation) has become increasingly important to the ID field in the last five years. At the same time, our present knowledge can best be described as a mile wide and an inch deep. Much of the writing falls in the categories

> of personal opinion and how-to-do-it approaches. Each writer has selected an areas of personal interest and explored it.

It should not be surprising that researchers would begin by reporting "personal opinions" based upon experiences or approaches that have been used successfully. No endeavor within a new field can be expected to emerge with a clearly articulated framework to guide future research. It is from such "experiences," however, that the construction of an organizing framework may begin. Such a framework may enable systematic research to begin. Argyris (1970) points out that by failing to take an approach that allows for theory building and systematic research as the basis for action, the cost will be to limit the scope of the field to the behavior of the practitioner. To accelerate the building process, Argyris further suggests borrowing from the frameworks of other fields in which systematic research is available.

Sneed and Bruce (1980), for example, have borrowed from the leadership literature. They noted that while the collaborative/process model of consultation is "intuitively appealing," it does not address the human and situational contingencies which affect the IDers decisions to use a certain style or role with the client. They state that the IDer must have both a range of behavioral styles from which to choose and an awareness of situational contingencies that require the application of such a role or style. To accomplish this, the IDer is required to assume "nonstereotypic sex-role behaviors" when interacting with the client. By viewing consulting as a form of leadership, they have come to label such behaviors as "androgynous leadership." Essentially, Sneed and Bruce are suggesting that if IDers adopt this style of leadership, they will be able to respond to client and task situations more effectively. While the effectiveness of "androgynous leadership: is still a question for investigation, Sneed and Bruce have led us to begin considering the consulting process from a different perspective. The history of leadership research seems to point the way for organizing consulting research in instructional development.

Three Models of Leadership

Three models for conceptualizing leadership have successively evolved. These models involve, in varying degrees, four broad categories of variables (Dunkin, Biddle, 1974): (1) prestage - traits, characteristics, attitudes, and expectations; (2) context - scope of tack, resources, sophistication of client, organizational variables, and all other aspects of the situation; (3) process - client and consultant behavior, including the types of questions asked and the nature of their interaction; and (4) product - outcome of the instructional design process including effectiveness of product, perceptions of client and use of resources.

The "trait model" emerged as a result of an interest in attempting to identify certain personality attributes ("traits") that leaders possess (Shaw, 1971). It was assumed that such traits were responsible for much of the leader's behavior. If a number of the traits that contribute to leader behavior could be identified, future leaders could then be selected early in their careers and trained for important positions. This has in fact occurred, though not to the extent hoped for. A number of traits have been found to consistently correlate with certain measures of leadership behavior.

The correlations, however, have been fairly small. Generally, these traits are related to ability, sociability, and motivation (Shaw, 1971). Those doing consulting research might ask if these traits or others, such as flexibility, field dependence and independence, and authoritarianism might correlate with some criteria for the successful IDer. Sneed and Bruce's idea regarding androgynous leadership is certainly a trait that might also be examined.

In the 1950s results from research were beginning to reveal that the idea of leader as a homogeneous role was deficient. It was found that a trait positively related to leadership in one situation was often negatively related or unrelated in another. This lead to the notion that traits and leader behaviors are related to the situation and that who became a leader depended, in some degree, upon the nature of the task (Hollander and Julian, 1969). This evolved in the late 1950s into the "situation model." It was assumed that the situation in which the leader functioned was the primary influence. The main focus of this model was the study of leadership behavior in various settings. These settings were often defined in terms of group tasks and structure. It was assumed that the situation in which the leader functioned was the primary influence. The main focus of this model was the study of leadership behavior in various settings. These settings were often defined in terms of group tasks and structure. It was anticipated that it would be possible to prescribe effective leadership behaviors across a taxonomy of group tasks and structures. However, it was soon found that leader traits and abilities were still important but only to the extent that they were relevant to a particular situation. For those exploring consultation in instructional development, this model suggests a number of questions such as: What is the nature of the projects encountered by the IDer? To what extent does the scope of a task influence an IDer's consulting behavior?

It soon became evident in the 1960s that the trait and situational approaches were too simplistic and static to account for the myriad behaviors exhibited by leaders (Hollander and Julian, 1969). The idea emerged that to properly consider leadership, a more systemic view was needed that considers leadership as a process of social influence between the leader, the lead and the situation. This "interactional model" assumed that neither the leader, the lead, nor the setting were

necessarily the prime determinants of leader behavior. Rather, leader behavior was determined by the interactions between these three elements (Hollander and Julian, 1969).

Fiedler's contingency model (1967) is an example of an interactional model. His model is based on the idea that the performance of a group is contingent upon the interaction of leadership style and "situational favorableness." Situational favorableness is defined in terms of the leader-member relations, task structure and position power of the leader. Leadership style is defined in terms of a least preferred co-worker (LPC) score. A high LPC score indicates that the leader has described a least preferred co-worker in very favorable terms. Fiedler found that a leader with a low LPC score performed more effectively when elements of situational favorableness were either very high or very low. This is in contrast to a leader with a high LPC score, who performs more effectively when the factors determining situational favorableness are moderate. Questions the researcher might ask of the consulting relationship using this model would include: with what type of situation and client should the IDer employ strategy X? The research reported in this chapter asked questions that reflected an interactional model.

A Transactional Model

The most recent thinking in leadership research appears to have evolved to the point of the interactional model as found in the work of Fiedler. Sameroff (1975) has noted two additional assumptions made by this type of model: (1) the consultant, client and situation can be defined independently of one another, and (2) any evaluation or classification made regarding these factors will persist over time. If these assumptions can be accepted, then even an interactional model may not be completely adequate for describing the dynamic nature of a consulting relationship.

To give full consideration to the variety of behavior found among and within intrapersonal and environmental variables, it is necessary to propose a model that can deal with processes and changes that will occur during the consulting relationship. Sameroff has labeled this model a transactional model. The IDer consultant, client, and setting would then be viewed as elements that interact through various transactions over time. The consequence of these transactions causes each element to be altered or perceived differently by the other. Kaplan (1978) has provided an interesting example of a transactional consulting relationship within an organizational development setting. Questions asked with this model might deal with identifying the processes employed with certain client types and environmental conditions.

Implication for Consulting Research

Hollander and Julian (1969) have suggested implications for leadership research from a perspective that could be interpreted as transactional. Their ideas serve equally well for those wishing to explore consulting, since they expand on the ideas of the four models discussed above. It is from their writing that some of the following ideas are derived.

In considering consulting, it is important to distinguish between the consultant as a person and consulting as a process with the consultant playing a role in the process. From this perspective, consulting can then be viewed as a long-term influence process which occurs between the consultant and client(s). This process results in the attainment of certain goals within the constraints of a specific setting. These goals will reflect some combination of personal, professional, and task outcomes thought by consultation participants to be appropriate for the consultant, client, and setting. The "setting" in this paper is the physical environment in which the instructional development project takes place. More precisely, the setting is the objective world "outside" that can be described in terms of physical and social variables (Ekehammar, 1974). Two classes of variables in the physical environment are organizational and task. The organizational variable, for example, can be described in terms of factors that may influence the instructional development project, such as desire for change on the part of the organization, available resources for such efforts, and existing reward contingencies. The task variable might consist of factors such as the degree of structure in the design task, the types of changes involved, and the scope of the project. Ekehammar (1974) has suggested that "setting" also has a second component, called the psychological environment. This he defines as the "subjective" world consisting of the individual's perceptions and constructions of the physical environment, which can be described in terms of psychological variables.

The relationship between client and consultant is a process of influence. Such influence is based in various exchanges or transactions in which the consultant both gives something and receives something in return. For the IDer/consultant may in return receive higher status and greater legitimacy, which is essential to the influence-based relationship between consultant and client.

The consultant fills a variety of roles or functions during the course of the consulting relationship. Such roles include: information expert, trainer/educator, salesman, counselor, advocate, and fact-finder (Lippitt and Lippitt, 1978). Clients hold expectations concerning these functions, and the manner in which the consultant's behavior is perceived as appropriate is most likely influenced by these expectations.

These perceptions may have an impact upon the quality of the interaction. Leitzman, Walter, Earle, Meyers (1980) have suggested that it is important that expectations be explored and revealed early in the course of a contract. Interestingly, a number of attributes have been

identified that appear to influence how the group leader is perceived. These attributes are classified generally as "demonstrated competence" and "perceived motivation" of the leader regarding the group and its task (problem) (Hollander and Julian, 1969).

Methodology and Conclusion

By borrowing from the leadership literature, a way has been presented for approaching and organizing consultation research in the environment of instructional development. This approach should be considered evolutionary in that each subsequent model builds upon the findings of the previous one. To begin this model-building process will initially require sound case studies that collect data about the IDer-client interaction and the context in which it takes place. The collection of such data will require explanatory concepts to tie them together. According to Brophy (1979), such concepts would serve as "grounded mini-theories" which, after verification, would serve as a basis for correlational studies and more formal experimentation. Bratton (1980), and Coscarelli and Stonewater (1980), have posed questions that, when applied within the models discussed above, should aid in our understanding of the IDer-client relationship. The statistical methods for coping with these questions, and others of a more complex nature, are available. These methods include, for example, multivariate analysis of variance and multidimensional scaling (Ekehammar, 1974). The usefulness of multidimensional scaling for studying individual's perceptions of situations should be considered, but to date, the application of this technique has been limited in the instructional development literature. (See Leitzman, Rutt, Austin, 1980; and Rutt, 1977, for examples of the application of this technique.) It will no doubt also become necessary to employ different models of inquiry than those traditionally used. Naturalistic inquiry (see Guba, 1979; Shrock, 1977) is one such non-experimental approach to be considered which will enable the research to come to grips with the complexity of human interaction in the consulting relationship.

Earlier it was stated that if IDer's are to improve their effectiveness as professionals more work will be needed in understanding the consulting relationship. It is hoped that this last section will encourage others to consider this relationship in a more systematic manner. The end results of such research should provide IDers with strategies useful in dealing with our clients, an increased understanding of the environment in which we work, and more effective instructional systems.[2]

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FOOTNOTES

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